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EXAMINER

KIM, HEE-YONG

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2482

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,878	Applicant(s) MANIATOPOULOS ET AL.	
	Examiner HEE-YONG KIM	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-22, and 24-26 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in reply to Applicant's Response dated December 12, 2010.
2. **Claims 10 and 22** have been amended.
3. **Claims 7-26** are pending.

Response to Arguments

4. Rejection of **claims 22-23** under 35 U.S.C. 112, first paragraph is withdrawn because amendment overcomes the previous rejection.
5. Applicant's arguments with respect to the prior art rejection over **claims 7-26** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 7-10 and 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma (US patent 6,056,248) in view of Flint (US 5,559,670), and further in view of Jobs (US 2003/0,086,240), hereafter referenced as Ma, Flint and Jobs respectively.

Regarding **claim 10**, Ma discloses A video screen assembly (All dimensional Display Fig.1-3) for mounting to a vehicle seat (secure to one side of driver seat, col.2, 30-40), the video screen assembly comprising:

a fitting (base 1 at Fig.1) for pivotally mounting the video screen (display screen 32, Fig.3) to the vehicle seat (secure to one side of driver seat, col.2, 30-40), the video screen being adjustable from a first, lower, position of use (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) to a second, upper, position of use (position shown at Fig.3); and

a first articulated joint (pin 21 at Fig.1) between the fitting (base 1 at Fig.1) and the pivoting arm (support 2 at Fig.3) wherein the first comprise a releasable (examine read as releasable into the first and second position) non-positive arresting device (examiner read as No other forces are needed for both positions),

wherein the video screen is rotatable, in relation to the fitting, through an angle of 150 degrees to 210 degrees (approximately 180 degree as shown in Fig.3) from the first position of use to the second position of use, and

wherein the video screen can be pivoted upwards through an angle of 10 degrees to 20 degrees (Examiner read as screen can be rotated respect to the first axis in 10 to 20 degrees from the stowed position) from a stowed position into the first, lower, position of use.

However, Ma fails to disclose a pivoting arm connected to the fitting for rotation about a generally horizontal axis of rotation, the pivoting arm having a frame that

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encloses the video screen, the video screen being rotatable relative to the frame; a spring having a spring force opposed to the gravitational force when moving the video screen between the first and second positions; and a second articulated joint between the pivoting arm and the screen, wherein the second articulated joints each comprise a releasable non-positive arresting device,

In the analogous field of endeavor, Flint discloses Convertible Display Computer. Flint specifically discloses a pivoting arm (pivot members 14 and 15, Fig.1) connected to the fitting for rotation about a generally horizontal axis of rotation(Fig.1), the pivoting arm having a frame (frame 4, Fig.1) that encloses the video screen (display 3, Fig.1), the video screen being rotatable relative to the frame (Fig.2); and a second articulated joint (pivot members 14 and 15, Fig.1) between the frame and the video screen, wherein the second articulated joints each comprise a releasable (examine read as releasable into the first and second position) non-positive arresting device (examiner read as No other forces are needed for both positions), in order for the display to be positioned to the face toward the user while the frame is rotated (col.4, line 65 – col.2, line 6).

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing specifically a video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, in order for the display to be positioned vertically to the face toward the user while the frame is rotated. However, Ma and Flint still fail to disclose a spring having a

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spring force opposed to the gravitational force when moving the video screen between the first and second positions.

In the analogous field of endeavor, Jobs discloses Computer Controlled Display Device. Jobs specifically discloses a spring (spring, paragraph 365) having a spring force opposed to the gravitational force (counteract the downward gravitational force), in order to bias display upward (paragraph 365).

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing a spring having a spring force opposed to the gravitational force when moving the video screen between the first and second positions, in order to bias display upward. The Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, has all the features of claim 10.

Regarding **claim 7**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, as applied to claim 10, disclose wherein the video screen (Flint: display 3, Fig.1) is rotatable about a basically horizontal axis of rotation in relation to the pivoting arm (Flint: Fig.2).

Regarding **claim 8**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, as applied to claim 7, discloses wherein

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the video screen is rotatable through an angle of 150 degrees to 210 degrees, in particular approximately 180, in relation to the pivoting arm (Flint: Fig.2).

Regarding **claim 9**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, as applied to claim 10, discloses wherein the pivoting arm (Flint: pivot members 14 and 15, Fig.2), at its end facing the video screen (Flint display 3, Fig.2), comprises a frame (Flint: frame 4, Fig.2), inside which the video screen is rotatably arranged (Flint: Fig.2).

Regarding **claim 14**, Ma and Flint and Jobs disclose everything claimed as applied above (see claim 13). Ma further discloses implicitly *wherein the video screen assembly is arranged in the rear side of the backrest in the first, lower position of use and behind the head 3 restraint in the second, upper position of use*, because his display device can be installed at any place in the seat and could be as above position for proper viewing for the passenger in the rear seat.

Regarding claim **15**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, as applied to claim 14, discloses *wherein the video screen is pivotable to a stowed position (D) through an angle of 150° to 210° (Flint: fig.2), in relation to the pivoting arm. and can be shifted to a protected position (Ma: Closed position contrary to open position at Fig.2) in which the video screen display side is turned towards the rear side of the back rest (Ma: Display board is folded in Column 2, line 41-47)*

8. **Claims 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Flint, further in view of Jobs, and further in view of Shida (US 6,661,571) (hereafter referenced as Shida).

Regarding **claim 11**, Ma and Flint and Jobs discloses everything claimed as applied above (see claim 10). However Ma and Flint and Jobs fail to disclose wherein the first and second articulated joint interact with one another through the use of a torque transmitting device, in such a way that when folding the pivoting arm in relation to the fitting, the video screen is turned through a basically equal angle in relation to the pivoting arm.

In the analogous field of endeavor, Shida discloses Surgical Microscopic System. Jobs specifically discloses the first and second LCD driving pulleys are rotated in the same direction and at the same speed by means of belt (equal to *torque transmitting device*, col.40, line 27-37) , in order to keep the positional relationship between two LCD's (col.40, line 27-37). This teaching can be applied to the combination of Ma and Jobs by driving both the first and second rotation with the same angle, in order to make screen display more user friendly.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma and Flint and Jobs by providing wherein the first and second articulated joint interact with one another through the use of a torque transmitting device, in such a way that when folding the pivoting arm in

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relation to the fitting, the video screen is turned through a basically equal angle in relation to the pivoting arm, in order to make screen display more user friendly. The Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, further incorporating the Shida driving two pulleys rotating same angle, has all the features of claim 11.

Regarding **claim 12**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Jobs spring, further incorporating the Shida driving two pulleys rotating same angle, as applied to claim 11, discloses wherein the torque-transmitting device comprises a belt drive (Shida: belt ,col.40, line 27-37).

9. **Claims 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Flint, further in view of Jobs, and further in view official notice.

Regarding **claim 13**, Ma and Flint and Jobs disclose everything claimed as above (see claim 10). However, they fail to disclose *a vehicle seat having a head restraint and a back rest having a rear side 2 having an upper edge, vehicle seat comprising the video screen assembly.*

However, It was well known in the art at the time of invention to have *a vehicle seat having a head restraint and a back rest having a rear side 2 having an upper edge*, and Ma further discloses that his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-34).

10. **Claims 16-18, and 21-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Flint.

Regarding **claim 16**, Ma discloses All Dimensional Display Device. Specifically Ma discloses A video screen assembly (All dimensional Display Fig.1-3) configured to be mounted to a vehicle seat (secure to one side of driver seat, col.2, 30-40) for use by an occupant positioned behind the vehicle seat (allow all the passenger in the car to look at, col.2, 30-40) , the video screen assembly comprising:

a first joint (pin 21 at Fig.1) defining a first axis of rotation, the first axis of rotation (pin 21 at Fig.1) configured to be a substantially horizontal axis (Fig.1) extending transverse to the vehicle seat;

an arm (2 at Fig.3) coupled to the first joint and rotatable (Fig.3) about the first axis of rotation (pin 21 at Fig.1)

between a first use position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) and a second use position (position shown at Fig.3); a frame (frame 3, Fig.1) coupled to the arm.

However, Ma fails to disclose a second joint provided at the frame, the second joint defining a second axis of rotation, the second axis of rotation being substantially parallel to the first axis of rotation; and

a video screen supported at the frame and mounted to the second joint, the video screen having a front side and a rear side, a display being provided on the front side;

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wherein the video screen is rotatable relative to the frame about the second axis of rotation between approximately 150 degrees and approximately 210 degrees so that the display can face the occupant when the arm is in both the first use position and the second use position.

In the analogous field of endeavor, Flint discloses Convertible Display computer. Flint specifically discloses a second joint (pivot members 14 and 15, Fig.1) provided at the frame (frame 4, Fig.1), the second joint defining a second axis of rotation (Fig.2); and

a video screen (display 3, Fig.1) supported at the frame and mounted to the second joint (Fig.1), the video screen having a front side and a rear side (Fig.2), a display being provided on the front side (Fig.1);

wherein the video screen is rotatable relative to the frame about the second axis of rotation between approximately 150 degrees and approximately 210 degrees (Fig.2) so that the display can face the user, in order for the display to be positioned to the face toward the user while the frame is rotated (col.4, line 65 – col.2, line 6).

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing specifically a video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, in order for the display to be positioned to the face toward the user while the frame is rotated. Also the second axis of rotation is substantially parallel to the first axis of rotation, because both are horizontal axis. The Ma all dimensional display,

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incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, has all the features of claim 16.

Regarding **claim 17**, Ma and Flint disclose everything claimed as applied above (see claim 16). Ma further discloses wherein the first use position is a lower position and the second use position is an upper position (position shown at Fig.3), the first use position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) being between approximately 150 degrees and approximately 210 degrees offset from the second use position (approximately 180 degree between the first and second positions as shown at Fig.3).

Regarding **claim 18**, Ma and Flint disclose everything claimed as applied above (see claim 17). Ma further discloses wherein the first use position is approximately 180 degrees offset from the second use position (approximately 180 degree between the first and second positions as shown at Fig.3).

Regarding **claim 21**, the Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, as applied to claim 16, discloses wherein the video screen is rotatable approximately 180 degrees (Flint: Fig.2) about the second axis when the frame is in a position that is between the first use position and the second use position.

Regarding **claim 22**, Ma and Flint disclose everything claimed as applied above (see claim 16). However, Ma and Flint fails to disclose wherein the screen rotates about

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the second axis of rotation automatically when the frame rotates between the first use position and the second use position.

However, it was obvious to make the manual operation to the automatic mode in order to give more convenience to the passenger.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma and Flint by providing specifically wherein the screen rotates about the second axis of rotation automatically when the frame rotates between the first use position and the second use position, in order to give more convenience to the passenger. The Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the screen rotates about the second axis of rotation automatically when the frame rotates between the first use position and the second use position, has all the features of claim 22.

11. Claims **19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Flint, and further in view of Anderson (US 5,513,746) (hereafter referenced as Anderson).

Regarding **claim 19**, Ma and Flint disclose everything claimed as applied above (see claim 16). However Ma fails to disclose wherein the first joint comprises a releasable locking device configured to retain the frame in an angular position about the first axis that has been selected by the occupant.

In the analogous field of endeavor, Anderson discloses Portable Display Device. Anderson specifically discloses releasable lock such as coil spring incorporated into a pivot joint joining display to the base (col.5, line 33-39), in order to do releasably lock (col.5, line 33-39) which automatically achieves retain the frame in an selected angular position.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the first joint comprises a releasable locking device, in order to do releasably lock. The Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, incorporating the Anderson releasable locking device into the first joint, has all the features of claim 19.

Regarding **claim 20**, Ma and Flint disclose everything claimed as applied above (see claim 16). However Ma and Flint fails to discloses wherein the second joint comprises a releasable locking device configured to retain the screen in an angular position about the second axis that has been selected by the occupant.

However, Anderson specifically discloses releasable lock such as coil spring incorporated into a pivot joint joining display to the base (col.5, line 33-39), in order to do releasably lock (col.5, line 33-39) which automatically achieves retain the frame in an selected angular position.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the second joint comprises a releasable locking device, in order to do releasably lock. The Ma all

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dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating the Anderson releasable locking device into the second joint, has all the features of claim 20.

12. **Claims 24-26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Flint, and further in view official notice.

Regarding **claim 24**, Ma and Flint disclose everything claimed as applied above (see claim 16). It is anticipated by Ma, *A vehicle seat having a head restraint and a backrest having a rear side having an upper edge, the vehicle seat comprising the video screen assembly of claim 16*, because It was common at the time of invention to have a *vehicle seat having a head restraint and a back rest having a rear side having an upper edge*, and Ma further discloses that his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-40).

Regarding **claim 25**, Ma and Flint disclose everything claimed as applied above (see claim 16). However Ma and Flint fail to disclose wherein the video screen assembly is configured to be substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position.

However, Ma discloses his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-40). One embodiment could be installed behind backrest, in order to be operated and viewed by the occupant in the back seat. However, since the head restraint could be trouble in the second position (see Fig.3), the clearance is needed between the head constraint and the display.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the video screen assembly is configured to be substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, in order to be operated and viewed by the occupant in the back seat. The Ma all dimensional display, incorporating the Flint video screen mounted in a frame and rotatable relative to horizontal axis defined by hinges in a frame, further incorporating setting screen display substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, has all the features of claim 25.

Regarding **claim 26**, the Ma all dimensional display, incorporating setting screen display substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, discloses everything claimed as applied above (see claim 25). Ma further discloses wherein the frame is further rotatable (rotate further to be in the close position) about the first axis of rotation to a stowed position (Closed position, col.2, line 41-47) that is past the first position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40), the display of the screen is configured to face the backrest when the frame is in the stowed position.

Allowable Subject Matter

13. **Claim 23 is** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim 16 and an intervening claim 22.

Dependent **claim 23** recite "...wherein the screen rotates about the second axis of rotation automatically when the frame rotates between the first use position and the second use position, further comprising a belt drive configured to synchronize the rotation of the frame about the first axis of rotation and the rotation of the screen about the second axis of rotation..." which are features that are not anticipated nor obvious over the art of record. Accordingly, if the claims are amended as indicated above, and if rejected claims 7-22 and 24-26 are cancelled, the application would be placed in a condition for allowance.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hee-Yong Kim whose telephone number is (571)270-3669. The examiner can normally be reached on Monday-Thursday, 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/HEE-YONG KIM/
Examiner, Art Unit 2482

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art
Unit 2482